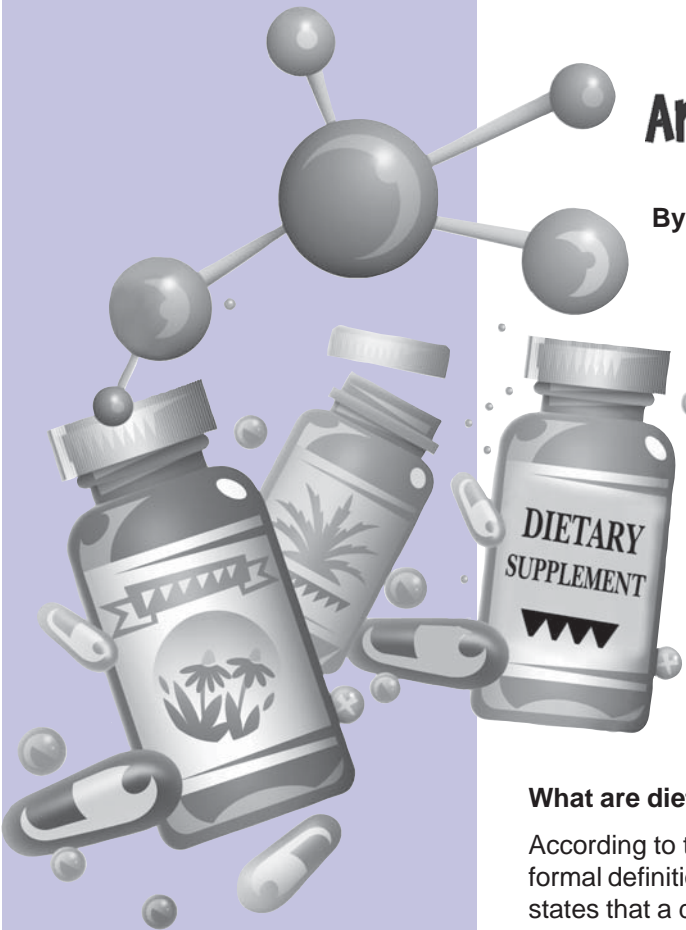


# NutritionTimes

January 2003, Volume 5, No.2

## An Overview of Dietary Supplements

By Isabel Simard, MS, RD, CLE



In the past decade, dietary supplement sales have greatly increased in the United States. An FDA guide to Dietary supplements shows that in 1990 consumers were spending \$3.3 billion dollars and in 2000, \$15.4 billion dollars.<sup>1</sup> After the 1994 Dietary Supplement Health and Education Act (DSHEA), 1000 new products enter our market every year.

- is labeled as a "dietary supplement."
- includes products such as an approved new drug, certified antibiotic, or licensed biologic that was marketed as a dietary supplement or food before approval, certification, or license (unless the Secretary of Health and Human Services waives this provision).

### Regulation of dietary supplements

In 1994, the DHSEA Act passed, resulting in the fact that dietary supplements are no longer subject to premarket safety evaluations. Under DSHEA a dietary supplement is adulterated if it or one of its ingredients presents "a significant or unreasonable risk of illness or injury" when used as directed on the label, or under normal conditions of use (if there are no directions).<sup>2</sup> **This means that the FDA does not approve dietary supplements before they reach the market.**

The FDA is responsible for taking action against any unsafe dietary supplement product after it reaches the market. The FDA's post-marketing responsibilities include monitoring safety, e.g. voluntary dietary supplement adverse event reporting, and product information, such as labeling, claims, package inserts, and accompanying literature. The disclaimer "This statement has not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease," found

### What are dietary supplements?

According to the DSHEA act of 1994, the formal definition of a "dietary supplement" states that a dietary supplement:

- is a product (other than tobacco) that is intended to supplement the diet that bears or contains one or more of the following dietary ingredients: a vitamin, a mineral, an herb or other botanical, an amino acid, a dietary substance for use by man to supplement the diet by increasing the total daily intake, or a concentrate, metabolite, constituent, extract, or combinations of these ingredients.
- is intended for ingestion in pill, capsule, tablet, or liquid form.
- is not represented for use as a conventional food or as the sole item of a meal or diet.

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# Is Orange County Tipping the Scale?

By Leigh-Anne Rice, MPH, RD

Americans are generally aware of the importance of healthy eating. But just how easy is it? Most Americans believe that what they eat is "important to them," however most also believe that serving sizes are much bigger than they actually are! Could this be the cause of the rising prevalence of obesity and overweight? According to Registered Dietitian Isabel Simard, when most people look at the base of the food guide pyramid and see that they need 6-11 servings per day of bread, grains, and cereals they generally state "there's no way I can eat that much" but in reality most people are consuming double these recommended amounts. It's a classic case of portion distortion. If Americans become more aware of appropriate serving sizes they will achieve a healthy weight and avoid "tipping the scale." It's So Easy!

## Is Everyone at Risk?

Yes. With increasing numbers of "value meals" and "super sizes" and more convenience foods coupled with people on the run, we are all at risk for unhealthy behaviors that could lead to overweight and obesity. Did you know that most fast food restaurant serving sizes are three times larger than they were in 1970? Wow! For just \$0.37 you can upgrade your soda to a super size for an extra 450 calories more than a Quarter Pounder! Is this more calories than you bargained for? Perhaps good old H<sub>2</sub>O is best! According to new data from the 1999-2000 National Health and Nutrition Examination Survey published in the Journal of the American Medical Association, nearly one-third of all adults are now classified as obese. However, one of the most significant concerns from a public health perspective is that our children are also becoming obese.

One in four children are at risk for becoming overweight and one in 10 children are already overweight. According to the Centers for Disease Control (CDC) and Prevention study released

in October 2002, 15 percent of children between the ages of 6 and 19 are overweight or obese. These children are at risk! Especially considering the health related implications that are associated with obesity. Among children, we are seeing a rise in diabetes, gall bladder problems, high cholesterol and heart disease, and the problem keeps getting worse. Obesity rates for adults rose by 60 percent between 1990 and 2000 alone, while childhood obesity rates doubled in the last 20 years. Obesity causes an estimated 300,000 premature deaths each year, second only to smoking as the nation's leading cause of preventable death.

## Give Me the Answers!

If you or your children are overweight, you may be at a higher risk for diabetes, heart disease and other chronic illnesses. But the good news is there are a few things that you can do to help. First, the CDC suggests that if you lose only 10 percent of your body weight you can significantly lower your risks. Secondly, Keep a food log. When you write down the foods you eat, it creates awareness and accountability. Speaking from my professional experience, individuals who keep a food log lose and keep off the most weight! Keeping a food log also helps in reducing the extra calories that you might think are insignificant. For example, those little bites of food that you take while preparing your favorite meal count! Just because nobody can see you, doesn't mean that the calories secretly disappear. Thirdly, paying attention to the food labels is a wonderful way to realize that portion sizes are not inline with the Food Guide Pyramid. Plus, you may be shocked at the amount of fat in your favorite food item. Regardless, however you record your eating is up to you. If you are not honest, it is only a fool's game. You don't need fancy equipment, just a pencil and a piece of paper. Lastly, get out and get moving! Most adults and



children need 60 minutes of physical activity on most days of the week for optimum health.

## YOU can make a difference!

You can make a difference in your own life as well as those around you. As a public health dietitian, one of the best ways to make positive changes is through legislation. Policy changes in Orange County can help prevent further problems associated with the rise in obesity. But, YOU can make a difference now! For example, support schools that want to eliminate sodas and junk food from vending machines on campus, or encourage your children's school district to offer healthy snacks in vending machines. Writing a letter to your legislator to support nutrition and physical activity related bills could have a huge impact on your community. Also, try to encourage your children to get at least 60 minutes of physical activity on most days of the week. Always set a good example for your family. Eat at least 5 servings of fruits and vegetables every day and get plenty of physical activity. It's so easy!

## Extra resources to help you lose weight:

- To find out how many calories you need, check online at [www.dallasdietitian.com/calcalc.htm](http://www.dallasdietitian.com/calcalc.htm).
- The Interactive Healthy Eating Index, on the U.S. Department of Agriculture's website [www.usda.gov/cnpp/](http://www.usda.gov/cnpp/), will calculate and save data on up to 20 days of meals. The "cyberkitchen" [www.shapeup.org](http://www.shapeup.org) will calculate food and activity.

If you have a creative, effective way of promoting healthy eating for low-income families in Orange County, contact Dawn Robinson, RD at (714) 834-7984 or via email at [drobinson@hca.co.orange.ca.us](mailto:drobinson@hca.co.orange.ca.us). The Health Care Agency's Nutrition Services program

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## HOW FOOD Affects YOUR MOOD

Yvonne Ortega, M.S., R.D.

The association between food intake and mood has been of great interest to both the general public, as well as the scientific community. Of particular interest are those issues surrounding food cravings and the mood of women throughout the menstrual cycle. Other questions often asked by people: Why do I crave chocolate? Why does my energy plunge in the middle of the afternoon?



**Why do we crave carbohydrates?** The body and brain will adjust food intake based on the body's regulation of biochemicals. Some people are simply addicted to carbohydrates. When these people miss their afternoon soda or candy bar, they become grouchy and irritable. Often times these people will not be satisfied with one cookie or candy bar and will continue to eat. This occurs since food cravings are different from hunger that can be satisfied with any type of food. Food cravings are usually associated with one type of food at a given time (usually as soon as possible). Food cravings must therefore be linked to biochemical changes in the body? The theory most often believed is that a meal high in carbohydrate increases the release of tryptophan that enters the brain, leading to an increase in the level of the neurotransmitter serotonin that modulates mood. Serotonin has been the neurotransmitter whose relationship with food has been the most studied and observed. Serotonin is a neurotransmitter



made in your brain from an amino acid called tryptophan. Amino acids are the building blocks of protein. Oddly enough, when you eat a meal high in protein the levels of tryptophan and serotonin decrease and the opposite occurs when you eat a meal high in carbohydrates. When energy levels are low, those who crave carbohydrates will turn to desserts, soda, or other carbohydrate-rich snacks to increase energy levels, especially mid-afternoon. This snack rich in carbohydrates will satisfy the craver since the snack has increased serotonin levels and subsided the cravings. This does result in a cycle, similar to Pavlov's dogs who salivated in anticipation of food whenever a bell rang, the person craving carbohydrates will turn to desserts, pastas, breads when they are feeling tired or depressed. For those of you who are carbohydrate cravers, a diet low in carbohydrates and high in protein will not work for you. Your body may already be programmed. You will start to crave a bagel after you have eaten your high protein lunch. As stated above, meals high in protein will do the opposite of a high carbohydrate meal. A high protein lunch will decrease the levels of tryptophan and serotonin. Your body will ask you to increase your serotonin levels by craving carbohydrates. The dieter is doomed and may be able to fight the cravings for a while, but eventually this may result in a carbohydrate binge.



### Why do men have different food cravings than women?

Despite all other differences between men and women, the foods we crave also differ. Haven't we all seen a man in the grocery store at 11 p.m. at night, in the rain, with a box of ice cream, some chips and a chocolate bar? Who do you think sent him there? Most likely these foods are not for himself. They may be for his wife at home who is pregnant or for his wife at home who is experiencing a bad bout of PMS. The reason I know these foods are probably not for him since the number one food preferred by women was chocolate. The number one food preferred by men was beef. These results were noted by Dr. Pelchat at the University of Pennsylvania. Men often prefer foods high in protein and women often prefer foods high in carbohydrates. This may go back to the fluctuations of hormones women experience each month, or during pregnancy (especially the first trimester) or this may just be our basic instincts. Men will prefer protein for greater muscle mass and prefer the fat from protein. Don't get me wrong men do crave chocolate however, women more often prefer it.



Chocolate is the one food that has shown the greatest impact on mood. Those who crave chocolate tend to do so when they feel emotionally low. Chocolate is a definite comfort food. One theory is that chocolate's mood elevating properties reflect "drug-like" constituents including anandamines, caffeine, phenylethylamine and magnesium. However, the levels of these substances are so low to preclude such influences, as found in a research study conducted by Benton at University of Wales Swansea. A more likely answer may be that all foods that are palatable stimulate endorphin release in the brain and therefore elevate mood.

### So what can you do to alleviate mood swings and at the same time maintain a healthy weight?

- 1) **Eat a variety of food.** Let the food guide pyramid be your model for a healthy eating pattern. Include carbohydrates in your diet but decrease your consumption of simple carbohydrates (sugars) and increase your consumption of whole grains (pastas, bread, tortillas, and rice). These foods provide more energy than simple carbohydrates.
- 2) **Aim for 5-A-Day!** Eat at least five servings of fruits and vegetables each day. These foods provide us with a variety of vitamins and minerals that our body needs to perform all activities throughout the day.
- 3) **Don't forget to eat breakfast.** It really is the key to starting your day off on the right foot.
- 4) **Never skip a meal.** The constant flow of a variety of food throughout the day will help alleviate food cravings.



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## FOOD and Nutrition Information—Fact or Fiction?

Lynne Nachtrieb, Dietetic Intern

*A review of the Position of the American Dietetic Association: Food and Nutrition Misinformation. American Dietetic Association: February 2002.*

Today's consumer is proactive in gathering health and nutrition information to help them make informed decisions for themselves and their loved ones from an environment that recognizes the link between nutrition and health. Self-care is a trend as consumers take increasing responsibility in this area. Sadly, this interest and desire for information has given way to the opportunities for nutrition misinformation, quackery and health fraud to abound. It is the position of the American Dietetic Association (ADA) that with the harmful effects of nutrition misinformation on the economic and health status of individual consumers, nationally credentialed dietetics professionals are uniquely qualified to actively counter and correct food and nutrition misinformation. These professionals take an active role in providing accurate, science-based information that is easily understood so that consumers may decide how to apply it to their unique needs.

ADA's Nutrition and You: Trends 2000 Survey indicates that consumers are getting their nutrition information from television (48%), magazines (47%), newspapers (18%), books (12%), doctors (11%), and family and friends (11%). Dietitians and nutritionists were the least cited sources with 1 percent each. With the growth of Internet use, the number of consumers seeking health information on the Internet increased from 70 million in 1999 to 100 million in 2000. The opportunity for misinformation is fueled by the lack of a regulatory agency governing the accuracy of information on the Web. Consumers are confused (reportedly 1 in 5) by the conflicting dietary advice they are receiving and what is perceived as constantly changing information, leading them to be unsure about who or what to believe.



Research data, scientific studies and journal articles are sensationalized by the media in an effort to boost sales or enhance audience ratings. Oftentimes this information is not even in the proper context to allow consumers to interpret the findings or advice. A consequence of this misinformation may include delay or failure to seek legitimate medical care.

The economic effects are taking their toll on the public.



While obesity is on the rise, the annual expenditure on weight-loss foods, products and services is \$33 billion. An additional \$13.9 billion is spent on dietary supplements such as herbs, botanical and sports supplements. It is estimated that up to 60 percent of healthcare fraud victims are older people, many of who are on limited incomes. Although some of these products may do no harm, the consumer may be purchasing expensive products needlessly while obtaining no benefit.

It is the responsibility of those in the food industry, media and journalists, government/regulatory bodies, allied health professionals and dietetics professionals to each play a role in communicating and disseminating balanced, science-based food and nutrition information to today's consumer to counter misinformation. The ADA media spokesperson program was established to have a presence in the media as it is the number one source of information for consumers. Reliable websites offering scientific information



and professional organizations include [www.healthfinder.gov](http://www.healthfinder.gov); [www.navigator.tufts.edu](http://www.navigator.tufts.edu); [www.eatright.org](http://www.eatright.org); [www.w.w.c.o.s.a.n.bernardino.ca.us/](http://www.w.w.c.o.s.a.n.bernardino.ca.us/)

[eatwell/content/Quackery.htm](http://eatwell/content/Quackery.htm) and [www.ochealthinfo.com/public/nutrition/nac.htm](http://www.ochealthinfo.com/public/nutrition/nac.htm). Look for the HON (Health On the Net Foundation) symbol on nutrition web sites to indicate reliable, credible food and nutrition information. In addition there is a Consumer Nutrition Hotline at (800) 366-1655 for referrals to qualified nutrition experts.

### Is Orange County TIPPING the Scale?

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provides mini-grants up to \$500 to promote nutrition and physical activity. Applications are due February 2003. There are many fun things you can do such as conduct a taste test with a variety of fruits and vegetables, provide nutrition education classes for a specific ethnic group, organize a nutrition Olympics event, or pay for a guest speaker to come and teach children and their parents about healthy eating.

### HEALTH HYPE TRIVIA

1. Dubbed the "Vitamin King," this man has had numerous convictions and in 1997 pled guilty to drug smuggling, tax evasion, and more. He once founded and ran a nutrition "University" in Orange County.

- a) Kurt Donsbach
- b) Adelle Davis
- c) Neils Bohr
- d) Gayelord Hauser

By Don Paulin

Answer: Kurt Donsbach

## Overview of Dietary Supplements

*continued from page 1*

on dietary supplement containers is required by the DSHEA act of 1994 when a manufacturer makes a structure/function claim on a dietary supplement label. The Federal Trade Commission (FTC) regulates advertising of structure/function claims for dietary supplements. For more information about the FTC, visit [www.ftc.gov/bcp/menu-health.htm](http://www.ftc.gov/bcp/menu-health.htm).

### Claims

It is illegal for dietary supplement manufacturers to indicate that the product will treat or cure a specific condition (such as cancer). If the claim is misleading, the particular product with the misleading claim can be submitted to the FTC. They will evaluate the claim and take necessary action. Dietary Supplement companies do not have to provide the FDA with evidence about product safety and/or effectiveness in order to back up their claims. But of course, they can voluntarily provide the FDA with this information. It is up to each firm to set its own policy on disclosure of such information. For more information on dietary supplement claims, visit [www.cfsan.fda.gov/~dms/hclaims.html](http://www.cfsan.fda.gov/~dms/hclaims.html).

### Safety

By law, DSHEA manufacturers are responsible in making sure that their product is safe before it hits the market. Unlike drug products that must be proven safe and effective for their intended

use before marketing, there are no provisions in the law for the FDA to "approve" dietary supplements for safety or effectiveness before they reach the consumer.

How can consumers make an informed decision about using dietary supplements if the manufacturers do not have to prove the safety and effectiveness to the FDA? In order to obtain reliable resources, consumers may contact the Orange County Nutrition Alert and/or the San Bernardino Quackery Task Force. They can also visit their website at [www.ochealthinfo.com/public/nutrition/nac.htm](http://www.ochealthinfo.com/public/nutrition/nac.htm) and [www.co.san-bernardino.ca.us/eatwell/content/Quackery.htm](http://www.co.san-bernardino.ca.us/eatwell/content/Quackery.htm). The FDA is providing the following sites: Tips For The Savvy Supplement User: Making Informed Decisions And Evaluating Information—[www.cfsan.fda.gov/~dms/ds-savvy.html](http://www.cfsan.fda.gov/~dms/ds-savvy.html) (includes information on how to evaluate research findings and health information on-line) and Claims That Can Be Made for Conventional Foods and Dietary Supplements—[www.cfsan.fda.gov/~dms/hclaims.html](http://www.cfsan.fda.gov/~dms/hclaims.html) (provides information on what types of claims can be made for dietary supplements).

1. *An FDA Guide to Dietary Supplements* by Paula Kurtzweil, FDA Consumer magazine September-October 1998. ([www.fda.gov/fdac/features/1998/598\\_guid.html](http://www.fda.gov/fdac/features/1998/598_guid.html)).
2. U. S. Food and Drug Administration Center for Food Safety and Applied Nutrition DIETARY SUPPLEMENT HEALTH AND EDUCATION ACT OF 1994. December 1, 1995. ([www.cfsan.fda.gov/~dms/dietsupp.html](http://www.cfsan.fda.gov/~dms/dietsupp.html)).

## HOW FOOD Affects YOUR MOOD

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- 5) **Plan your snacks.** If you know by mid-afternoon you experience a food craving. Bring a healthy snack to work with you, such as cheese and crackers, yogurt and granola, an apple with reduced-fat peanut butter.

There are several influences on mood and therefore it is difficult to study a direct relationship on food when so many other psychosocial factors are involved. Therefore, the direct link between food and mood is an area that requires further scientific review.

### Resources:

- Donohoe, BT, The effects of nutrients on mood. *Public Health Nutr* 1999 Sept;2(3A):403-9.
- Christensen, L. Effects of eating behavior on mood: a review of literature. *Int J Eat Disord* 1993 Sep;14(2):171-83.
- Patel, K.A., and Schlundt, D.G., Impact of moods and social context on eating behavior. *Appetite* 2001 Apr;36(2):111-8.
- Pelchat ML. Food cravings in young and elderly adults. *Appetite* 1997;28:103-113.
- Somer, E. *Food & Mood: The complete guide to eating well and feeling your best.* Henry Holt and Company, New York, 1999.

## SAVE THE DATE

A Conference on Dietary Supplements entitled: "Consumer Health Reality Check: Making Informed Health Decisions" will be held at the FDA building in Irvine (19900 MacArthur Blvd., Suite 300, Irvine, CA 92612) on May 2, 2003.

Ellen Coleman, RD, MA, MPH nutrition consultant for The Sport Clinic in Riverside will be discussing Sports and popular supplements. Dr. Jarvis, PhD recently retired as Professor of Public Health and Preventive Medicine at Loma Linda University, where he taught courses dealing with controversial health practices. He will be discussing the topic of Dubious Doctors. Lastly, Dr. Sampson, MD is a hematologist/oncologist, emeritus Clinical Professor of Medicine at Stanford University, and former head of the Oncology Division at Santa Clara Valley Medical Center. He will be discussing Alternative Medicine.

The registration fee is \$30 and includes lunch and parking. For more information about this conference, please contact:

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Studies show that repeating a message is the best way to get a point across. So please repeat ours.

Thank you. Thank you.  
Thank you. Thank you.

*It's So Easy.*



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